AFA

Attorney Docket No. 47113-0938
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:		
John COOGAN et al.	Confirmation No.:	6445
Application No.: 09/857,688	Group Art Unit:	3721
Filed: October 3, 2001	Examiner:	Thanh TRUONG
FOR: METHOD FOR CORRECTING POSITIONAL ERRORS IN ROCK DRILLING, AND A ROCK DRILLING EQUIPMENT		

REPLY BRIEF (FEE) TRANSMITTAL FORM

Mail Stop **APPEAL BRIEF-PATENTS**
Commissioner for Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

1. Transmitted herewith is a REPLY BRIEF responding to the Examiner's Answer dated April 18, 2006.

2. Additional papers enclosed:

   ☒ REQUEST FOR ORAL HEARING
   ☒ REVOCATION AND NEW POWER OF ATTORNEY

3. Extension of Time

   The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136(a) apply.

   ☒ Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

   ☒ If an additional extension of time is required, please consider this a Petition therefor.

4. Constructive Petition

   ☒ EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire

pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

5. Fee Calculation (37 C.F.R. §1.16) **(Large Entity)**

CLAIMS AS AMENDED						
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	at Rate of	Total Fees
Total Claims (37 C.F.R. §1.16(c))	19	minus	20	0	x $50/$25 each=	$ 0.00
Independent Claims (37 C.F.R.§1.16(b))	4	minus	4	0	x $100/$50 each=	$ 0.00
First presentation of Multiple dependent claim(s): previously paid					$360/$180	$ 0.00
Fee for __ Month Extension of Time						$ 0.00
Request for Oral Hearing						$ 1,000.00
TOTAL FEE =						$ **1,000.00**

6. Fee Payment

☒ A check in the amount **$1,000.00** is attached for payment of Request for Oral Hearing Fee.

☒ The Commissioner is hereby authorized to charge any additional fees which may be required, including fees due under 37 C.F.R. §§ 1.16 and 1.17, or credit any overpayment to Deposit Account 50-0573.

Respectfully Submitted,

Date: June 13, 2006

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REPLY BRIEF

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Sir:

I. The Examiner Has Failed to Provide Evidence Showing Inherency

The Examiner rejects Claims 15-24, 27-31 and 33-37 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,383,524. From the Examiner's Answer, it appears that the Examiner is relying upon "inherency" to show features of the claimed invention. That is, by arguing inherency, the Examiner concedes that some of the features of the claimed invention are not explicitly disclosed in *Rinnemaa*.

In particular, on page 3 of the Examiner's answer, the examiner alleges that "[t]he deviation of the boom position from the theoretical position is measured at predetermined intervals (inherently discloses) as a function of the position of boom joint, and the position is corrected on the basis of the stored deviation that corresponds to the position of the joint corresponding to the drilling position." The Examiner then cites to column 2, line 62-

column 3, line 5 for "inherently" disclosing these features. However, this passage states that "the angle value indicated by the sensor is corrected by calculation in such a way that it corresponds to the actual angle of inclination of the feeding beam by allowing for the influence of an error caused by the inclination of the feeding beam in the other measuring plane at an angle with respect to the measuring plane of the sensor." The Examiner has failed to provide any explanation as to how this passage can be read to establish the features of the claimed invention, either explicitly or inherently. Moreover, it appears that the Examiner has misunderstood the principle of "inherency".

In particular, it is well established that the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

In the present matter, the examiner has failed to establish how the above-noted passage from *Rinnemaa* can be read to disclose "turning the boom" through incremental turning angles to obtain a first set of deviations, and measuring a deviation of the boom position from a desired incremental turning angle. *Rinnemaa* makes absolutely no mention of turning the boom from position to position incrementally, so that numerous deviations of the actual position from the expected position can be measured, and then using the deviations during a subsequent drilling operation as correction values for locating the boom at the desired incremental turning angles.

The passage cited by the Examiner falls short of explicitly and/or inherently disclosing these features. As discussed above, the allegedly inherent features must necessarily be found in *Rinnemaa*. In contrast, it is clear from a closer reading of *Rinnemaa* that these features are not necessarily found in *Rinnemaa*. In particular, as discussed above, *Rinnemaa* uses values obtained from angle sensors and a calculated correction value to position the feeding beam during the actual operation. There is no explicit nor inherent disclosure in *Rinnemaa* regarding turning the boom incrementally to obtain deviation values to be used in a subsequent operation. Accordingly, the Examiner has failed to establish that the features of the claimed invention are identically disclosed in the reference to *Rinnemaa*.

II. Appellants' Explanation Regarding the Respective Uses of the Devices Should Not Be Interpreted as a Claim Limitation

On page 4 of the Examiner's Answer, the Examiner alleges that Appellants are arguing limitations not found in the claims. However, Appellants respectfully disagree. In particular, Appellants have pointed out specific elements of the claims that distinguish the claims from *Rinnemaa*. Appellants' statements regarding the different purposes of the respective devices/methods should not be interpreted as a claim limitation. Appellants have

merely provided background regarding the very different purposes of the invention disclosed in the present application and that disclosed in *Rinnemaa*. This provides a context for understanding the differences between the claimed invention and *Rinnemaa*.

As discussed in the Appeal Brief, Column 3, lines 58-67 of *Rinnemaa* states the following:

> The basic idea of the equipment according to the invention is that the inclination of the feeding beam with respect to the force of gravity, that is, with respect to the surface of the earth, is measured by means of two sensors in two planes perpendicular to each other and parallel to the force of gravity, that is, perpendicular to the surface of the earth, and that the equipment comprises a calculator which calculates an error or a difference between the angle value obtained by the sensor and the actual inclination of the feeding beam.

Rinnemaa continues by stating at Column 3, line 67 - Column 4, line 2 that "[t]he error is due to the fact that the feeding beam is also inclined in the second measuring plane perpendicular to the first measuring plane."

In *Rinnemaa*, the question is about correcting (by calculation) of erroneous angle sensor readings to correspond to actual true inclination (of feeding beam). The principal difference between *Rinnemaa* and the present invention is that, in *Rinnemaa*, sensor reading errors are corrected to be used for aligning/positioning feeding beam. In the present invention, (boom) positioning errors are corrected. These two operations are independent from each other. Sensor reading correction does not correct positioning errors (caused by deflections and clearances) according to the present application.

In practice, boom positioning in automatic rock drilling is done by using (angle) sensor readings in various boom joints. In this operation, one could say that, *Rinnemaa* can be used to correct possible sensor reading errors. After this, there still remains positioning errors caused by deflections and clearances. As explained in the present application on page 3, paragraph [008], "[t]he essential idea of the invention is to determine at least the errors of

those of the different boom movements mainly causing an error, i.e. the deviations between the true boom position and the theoretical position, calculated on the basis of the movement sensor..." In other words, this sentence says that by utilizing sensor readings, a theoretical position for the boom is calculated. The idea of the invention is to determine error, i.e, deviations between the theoretical position and the true position.

For example, the claimed invention provides for "turning the boom" through incremental turning angles to obtain a first set of deviations, and measuring a deviation of the boom position from a desired incremental turning angle. The first set of deviations is then used during a subsequent drilling operation as correction values for locating the boom at the desired incremental turning angles. As stated in the Appeal Brief, these features address issues related to error deviations provided by loose joints, deformation of parts or looseness of parts.

In contrast, *Rinnemaa* does not disclose the distinguishing features recited above, either explicitly or inherently. *Rinnemaa* deals with a completely different issue, i.e., dealing with inaccuracies that can occur when moving the feeding beam in multiple planes arranged perpendicular to one another. As such, it is not necessary to turn the boom through incremental angles to obtain a first set of deviations, measuring the deviation, and the using the first set of deviations is a subsequent drilling operation as correction values for locating the boom. Accordingly, *Rinnemaa* fails to disclose the patentable features of the claimed invention.

III. Conclusion

For at least the foregoing reasons, it is submitted that the final rejections of the Examiner should be reversed.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully Submitted,

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